OR 8546
49

~~10/6/89~~
4/4/89

8283

10. Bruce Long, 000

Mr. T.J. Blech, Env. Mgr.
Chapman Chemical Co.
P.O. Box 9158
Memphis, TN 38109-0158

phoned Chuck Findley on Oct. 25th re: a recent inspection report on Chapman Chemical Co., Portland, facility by Tetra-Tech.

Mr. Blech wants a "copy" of the inspection report. Can you help him?

Tamara Langton
HW-112

JACOBS

TES IV

FINAL REPORT
RCRA LAND DISPOSAL RESTRICTION
COMPLIANCE INSPECTION REPORT

CHAPMAN CHEMICAL COMPANY
PORTLAND, OREGON
U.S. EPA REGION X

JACOBS ENGINEERING GROUP INC.
ENVIRONMENTAL SYSTEMS DIVISION

IN ASSOCIATION WITH:
TETRA TECH
METCALF & EDDY
ICAIR LIFE SYSTEMS
KELLOGG CORPORATION
GEO/RESOURCE CONSULTANTS
BATTELLE PACIFIC NORTHWEST LABORATORIES
DEVELOPMENT PLANNING AND RESEARCH ASSOCIATES

U.S. ENVIRONMENTAL PROTECTION AGENCY

TECHNICAL ENFORCEMENT SUPPORT
AT
HAZARDOUS WASTE SITES

TES IV

CONTRACT #68-01-7351
WORK ASSIGNMENT NO. R10008

FINAL REPORT
RCRA LAND DISPOSAL RESTRICTION
COMPLIANCE INSPECTION REPORT

CHAPMAN CHEMICAL COMPANY
PORTLAND, OREGON
U.S. EPA REGION X

TETRA TECH, INC.
FOR
JACOBS ENGINEERING GROUP, INC.
PROJECT NUMBER: 05-B997-00
TC-3621-83

JUNE 1989

RCRA LAND DISPOSAL RESTRICTION COMPLIANCE INSPECTION REPORT

FACILITY:	Chapman Chemical Company 10505 North Macrum Avenue Portland, OR 97203
U.S. EPA IDENTIFICATION NUMBER:	ORD057068546
DATE OF INSPECTION:	4 April 1989
INSPECTION TEAM:	Denise Jewett, Civil Engineer Tetra Tech, Inc. John McClellan, Environmental Engineer Tetra Tech, Inc.
FACILITY REPRESENTATIVES:	Don Petty Plant Manager
REPORT AUTHOR AND DATE:	Susan Walker 6 June 1989
AUTHOR SIGNATURE:	Denise Jewett
DATE:	6 JUNE 1989

CONTENTS

ATTACHMENTS

RCRA LAND DISPOSAL RESTRICTION INSPECTION REPORT
CHAPMAN CHEMICAL COMPANY
PORTLAND, OREGON

1.0 INTRODUCTION

On 4 April 1989, Tetra Tech, Inc., under the U.S. Environmental Protection Agency (EPA) Region X Technical Enforcement Support contract Work Assignment R10008, conducted a Resource Conservation and Recovery Act (RCRA) land disposal restriction (LDR) compliance inspection at the Chapman Chemical Company in Portland, OR. The purpose of the inspection was to determine the status of compliance with LDR regulations set forth in 40 CFR 268 pertaining to treatment, storage, and disposal of listed F-solvent wastes (40 CFR 261.31), first-third wastes (40 CFR 261.31), and California List hazardous wastes (U.S. EPA 1987). During the inspection, the inspectors discovered that Chapman Chemical had ceased chemical production in the fall of 1986 and no longer generated LDR hazardous wastes (F027).

This report includes a discussion of the facility's former waste management practices, observations made during the inspection, and a list of potential violations. Photographs taken during the inspection (Attachment A) and an LDR checklist (Attachment B) are included as attachments to this report.

2.0 BACKGROUND

2.1 Nature and History of Business

Prior to the inspection, Chapman Chemical files at the Oregon Department of Environmental Quality (DEQ) and U.S. EPA Region X were reviewed. Chapman Chemical in Portland began operation in December 1980. Headquartered in Memphis, TN, the company formulates wood preservatives containing penta-

chlorophenol (PCP) and tetrachlorophenol (TCP), copper 8-quinolinolate, copper naphthenate, sodium tetrachlorophenate, and other chemicals used in the wood products manufacturing industry. They also manufacture pigmented wax emulsions for use as sealers and endpoints for wood products.

Chapman Chemical ceased chemical production in September 1986, prior to the implementation of LDR regulations in November 1986. At that time, the company planned to undergo complete RCRA closure of the Portland facility and sell the property. A facility closure plan was submitted to the Oregon DEQ in January 1987 and Reidel Environmental Services was contracted to clean up the facility. However, management plans changed that spring, and Chapman Chemical decided to continue research and development at the Portland facility. Although tanks onsite had been emptied in October 1987 and their contents shipped to the Memphis facility for recycling, closure of the site was never completed (West, M., 17 April 1989, personal communication).

2.2 Regulatory History

Chapman Chemical did not originally notify the state that they were a generator of hazardous wastes. A 9 November 1984 inspection by DEQ documented the onsite accumulation of hazardous wastes in quantities greater than 200 lb/mo, which is the small quantity generator exemption limit. After receiving a notice of violation (NOV) from Oregon DEQ on 18 March 1985 for failure to register as a generator of hazardous wastes, Chapman Chemical registered as a hazardous waste generator. Their generator identification number was assigned on 8 May 1985.

Concurrent with the March 1985 NOV, Chapman Chemical received a letter from Columbia Steel, owner of the adjacent property. The letter indicated that the center pond at Columbia Steel's property had been contaminated by discharges from Chapman Chemical. Storm drain effluent, soil, and sediments were sampled on and near Chapman Chemical's property by Fishman Environmental Services (FES). According to the report that FES submitted to DEQ 20 May 1985 (Anonymous, no date), "this one-time sampling clearly shows that penta- and tetrachlorophenols were present in the Chapman Chemical storm drain

effluent during late February-early March 1985, and that contamination of water and soil/sediment in the center pond on Columbia Steel's property and contiguous wetland areas likely results from this source". Oregon DEQ subsequently issued Chapman Chemical an NOV in May 1985 for contaminating storm water with F027 waste. The NOV required submittal of a closure plan to remove any contamination onsite or offsite within 30 days. Evidence that Chapman Chemical remediated any contamination was not available in Oregon DEQ or U.S. EPA files.

During a compliance inspection of Chapman Chemical on 26 July 1985, Oregon DEQ found violation of several hazardous waste rules, including what appeared to be accumulation of hazardous waste drums for longer than 90 days, absence of hazardous waste and accumulation date labeling on drums, failure to conduct weekly inspections of drum storage areas, and absence of a training program and contingency plan (Bolton, F., 8 November 1985, personal communication). Another NOV was issued to Chapman Chemical on 8 November 1985 for these issues. In response, Chapman Chemical complied with drum labeling requirements, submitted a contingency plan, and submitted a closure plan for the accumulated drums.

On 3 April 1986, Oregon DEQ tested storm water in the area of Chapman Chemical's tank farm, following an observation by the City of Portland, Bureau of Environmental Services, Industrial Waste Section that storm water was overtopping the asphalt dike constructed at the far end of the tank farm. TCP (1.5 mg/L) and PCP (2.0 mg/L) were found in the stormwater samples (Gillaspie, J., 20 May 1986, personal communication). Another NOV was issued on 20 May 1986 to Chapman Chemical requiring submittal of a closure plan to remove any contamination onsite or offsite. In a letter dated 9 July 1986, Chapman Chemical vigorously contested that a violation of any law or regulation had occurred, but agreed to treat any TCP- or PCP-contaminated water in their containment system by potassium permanganate oxidation prior to approved discharge to the municipal sewage treatment plant. Evidence that a closure plan to remove contamination was submitted was not available in Oregon DEQ or U.S. EPA files.

Chapman Chemical decided to cease chemical production at the Portland facility in September 1986. After receiving notification of facility closure and a facility closure plan, Oregon DEQ returned to Chapman Chemical on 20 March 1987 to collect additional samples from the company's storm drain and the center pond at Columbia Steel. Sampling personnel noticed a small oil sheen at the outfall pipe on Chapman Chemical's property. Closer inspection revealed that a solid mass was lodged in the pipe, and that an oily material, believed to be creosote, was oozing from it (Adamczyk, D., 23 March 1987, personal communication). Oregon DEQ informed Chapman Chemical of their findings and advised the company of their responsibility to initiate an immediate cleanup. Chapman Chemical hired Reidel Environmental Services, Portland, OR to commence a study and cleanup. After the preliminary study, Chapman Chemical reported to Oregon DEQ that the creosote-like material was entering the storm drain in the general vicinity of a former sludge pond on Columbia Steel's property. Oregon DEQ subsequently asked Columbia Steel to address the problem, but reasons for this request were unavailable in Oregon DEQ or U.S. EPA files.

On 23 June 1987, Oregon DEQ collected soil samples to determine whether the previously observed levels of contamination were still present at the property. One water sample was also taken from a road drain that runs alongside the facility building. One of the soil samples contained 45 mg/kg PCP (Adamczyk, D., 29 September 1987, personal communication), and the water sample contained trace concentrations. Oregon DEQ determined that reported PCP levels in soil (45 mg/kg in June 1987 and 10-15 mg/kg in February/March 1985) did not establish that there was an environmental threat in this industrial location. Furthermore, the reported values were not sufficiently high to allow a reasonable determination of the origin of the contamination (Adamczyk, D., 29 September 1987, personal communication). As a result, Oregon DEQ took no further RCRA enforcement action at this facility.

2.3 Waste Generation

PCP was formulated from a dry product in two batch tanks. Solvents, including esters and ketones, were used to clean the tank lines and were

reused in formulating the product. A 20,000-gal wastewater collection tank received all incidental spills, discharges from all product tanks, and tank rinsates. The contents of the wastewater collection tank were tested periodically. If results were acceptable, the City of Portland unlocked a pump and the contents were discharged to the municipal treatment plant. If the results were unacceptable, Chapman Chemical treated the water by potassium permanganate oxidation to reduce the TCP and PCP concentrations to acceptable levels before discharging to the municipal system. Tank cleanings, sorbent pads, and other contaminated cleanup materials were placed in sealed drums and shipped to Chapman Chemical headquarters in Memphis, TN for recycling.

3.0 SITE INSPECTION

The site inspection of Chapman Chemical Company began at 0830 hours on 5 April 1989 and was conducted by Ms. Denise Jewett and Mr. John McClellan of Tetra Tech. The inspection team met with Mr. Don Petty, plant manager. Mr. Petty stated that Chapman Chemical had stopped chemical production in September 1986, planning to sell the property in August 1987. All tanks were emptied in October 1987. New management at Chapman Chemical decided to refurbish the plant to an environmentally sound operating condition and then resume chemical formulation in the future. Their current plans are to manufacture copper-8-quinolinolate instead of PCP. Mr. Petty stated that only administrative and research activities occur in the Portland office at this time. No wastes are generated as a result of these activities.

At the time of the inspection, the wastewater collection tank was approximately 80 percent full of murky water. A single former PCP tank inside the facility was checked and found to be empty. Mr. Petty did not have any facility records such as hazardous waste manifests, inspection records, or personnel records currently on file.

4.0 POTENTIAL VIOLATIONS

No potential violations are cited for this facility at this time.

5.0 REFERENCES

Adamczyk, D. 23 March 1987. Personal Communication (memo to file), Oregon Department of Environmental Quality, Portland, OR.

Adamczyk, D. 29 September 1987. Personal Communication (memo to file) Oregon Department of Environmental Quality, Portland, OR.

Anonymous. No date. Appendix C: data from Center Pond contamination report. 3 pp. (Fishman Environmental Services 1985b cited as source, but no further bibliographic details available).

Bolton, F. 8 November 1985. Personal Communication (letter to Chapman Chemical Company, Portland, OR, regarding notice of violation and intent to assess civil penalty). Region Administrator, Oregon Department of Environmental Quality, Portland, OR.

Gillaspie, J. 20 May 1986. Personal Communication (letter to Mike Woods, Chapman Chemical Company, Memphis, TN). Regional Manager, Oregon Department of Environmental Quality, Portland, OR.

U.S. Environmental Protection Agency. 1987. 40 CFR Part 260 et al. Land disposal restrictions for certain "California List" hazardous wastes and modifications to the framework; final rule. U.S. EPA, Washington, DC. Federal Register Vol. 52, No. 130. p. 25761.

West, M. 17 April 1989. Personal Communication (phone by Susan C. Walker, Tetra Tech, Inc., Bellevue, WA). Chemist, Chapman Chemical Company, Memphis, TN.

ATTACHMENT A

PHOTOGRAPHIC LOG

LDR Compliance Inspection Report

Chapman Chemical Company
Portland, OR

Inspection Date: 4 April 1989
Photographer: John McClellan
Tetra Tech, Inc.
Bellevue, Washington

Film: Kodak 100 ASA

ATTACHMENT A. PHOTOGRAPHIC LOG

SITE NAME: Chapman Chemical Company

Roll No.: 1 Photo No.: 1
Date: 4 April 1989 Time: 0830-1200
Unit: NA

Description: Product storage tanks

Photographer Facing: East
Photographer Name: John McClellan

SITE NAME: Chapman Chemical Company

Roll No.: 1 Photo No.: 2
Date: 4 April 1989 Time: 0830-1200
Unit: NA

Description: Product storage tanks

Photographer Facing: North
Photographer Name: John McClellan

SITE NAME: Chapman Chemical Company

Roll No.: 1 Photo No.: 3
Date: 4 April 1989 Time: 0830-1200
Unit: NA

Description: Manufacturing area

Photographer Facing: South
Photographer Name: John McClellan

SITE NAME: Chapman Chemical Company

Roll No.: 1 Photo No.: 4
Date: 4 April 1989 Time: 0830-1200
Unit: NA

Description: Sump collection area

Photographer Facing: East
Photographer Name: John McClellan

SITE NAME: Chapman Chemical Company

Roll No.: 1 Photo No.: 5
Date: 4 April 1989 Time: 0830-1200
Unit: NA

Description: 20,000-gal wastewater collection tank

Photographer Facing: North
Photographer Name: John McClellan

CHAPMAN CHEMICAL COMPANY
LDR PHOTOGRAPHIC LOG
4 APRIL 1989

Photo 1. Product storage tanks.

Photo 2.
Product storage tanks.

CHAPMAN CHEMICAL COMPANY
LDR PHOTOGRAPHIC LOG
4 APRIL 1989

Photo 3. Manufacturing area.

Photo 4. Sump collection area.

CHAPMAN CHEMICAL COMPANY
LDR PHOTOGRAPHIC LOG
4 APRIL 1989

Photo 5. 20,000 gal wastewater collection tank.

ATTACHMENT B

LDR GENERATOR CHECKLIST

Land Disposal Restrictions
(Part 268)

	Yes	No	Comments
Did the facility handle any waste restricted from land disposal* since its effective prohibition date: 268.1(b) (See attached listings)			
F001 thru F005 spent solvents?	✓		PRIOR TO SEPT 1986
F020-23 and F026-28 Dioxins?	✓		" " " "
"California List" wastes?		✓	
First Third scheduled wastes?		✓	

Exemptions: Are the prohibited wastes exempted from land disposal restrictions because:

The waste is from conditionally-exempt small quantity generators? 268.1(c)(3)(all)		✓	
A farmer is disposing of waste pesticides in accordance with 262.70? 268.1(c)(4)		✓	
An "imminent endangerment" waiver has been granted under 121(d)(4) of CERCLA? 268.1(d)		✓	

If no restricted wastes were handled after the effective dates or an above exemption applies to all restricted wastes handled, do not complete remainder of this section.

Exceptions: Can the restricted wastes continue to be land disposed because:

A case-by case extension has been granted under Subpart C or 268.5, for the wastes handled? 268.1(c)(1)(all), 268.30(d)(3)(F001-5), 268.31(d)(3)(dioxins), 268.32(g)(2)(CA list), 268.33(e)(3)(1st 3rd)		✓	
A no-migration petition has been granted under 268.6, for the wastes and units involved? (See 40 CFR 268.6(e-f) for operating requirements.) 268.1(c)(2)(all), 268.30(d)(2)(F001-5), 268.31(d)(2)(dioxins), 268.32(g)(1)(CA list), 268.33(e)(2)(1st 3rd)		✓	
An exemption has been granted because the waste is certified treated by the best demonstrated available technology (BDAT)? 268.44(a)		✓	

* Land disposal means placement in or on the land, including a landfill, surface impoundment waste pile, land treatment facility, salt dome formation, underground mine or cave, injection well, or placement in a concrete vault or bunker for disposal. 268.2(a) Injection wells are being covered under a separate schedule.

	Yes	No	Comments
A generator certifies a good-faith effort in compliance with 268.8 "soft-hammer" regulations? 268.1(c)(5)	___	✓	

If any of the preceding exceptions apply, the attached effective 268 Subpart C dates and concentrations, Subpart D standards, and Subpart E storage restrictions do not apply. Waste analysis and applicable generator certification requirements still pertain.

Has the handler not merely diluted the restricted waste or treatment residue in order to achieve compliance? 268.3	___	✓	

Storage:

Are restricted wastes only being stored where: 268.50-

(a)(1) A generator is using tanks or containers while accumulating a sufficiently large batch to properly recover, treat, or dispose?	___	✓	
(a)(2) A TSD is accumulating a batch as above? and:			
(i) Each container is marked with the contents and accumulation start date?	___	___	NA. THE FACILITY IS NO LONGER ACCUMULATING WASTE
(ii) Each tank is marked with the contents, accumulation start date, quantity of H.W., and/or the information is in the operating record?	___	___	
(c) The TSD can prove that any storage over one year was solely for the purpose of necessary accumulation? or:	___	___	
(d) The wastes are subject to an approved no-migration petition, case-by-case extension, a nation-wide variance, or a valid "soft hammer" 268.8 certification?	___	___	
(e) The stored wastes already meet any applicable treatment, concentration, or waiver standards?	___	___	
(f) After 7/8/87, are liquid hazardous wastes over 50 ppm PCBs stored for less than a year, and in a 761.65(b) (TSCA) complying storage area?	___	___	

See p. 268: 8 for off-site storage facility recordkeeping requirements.

	Yes	No	Comments
Generators: Waste Analysis			
If restricted wastes are generated on-site, has the generator, using knowledge or analysis, determined if the waste is restricted from land disposal? 268.7(a)	___	___	NA. THE FACILITY DOES NOT GENERATE RESTRICTED WASTES
Was the Paint Filter Liquids Test used to determine if waste sludges and solids were CA list liquids? 268.32(i)	___	___	
Did the generator determine if liquid CA list wastes have a pH of less than or equal to 2? 268.32(j)(1)	___	___	
Did the generator determine if liquid CA list wastes containing PCBs or HOCs were prohibited? 268.32(j)(2)	___	___	
Where waste treatment standards are expressed as concentrations in the waste extract (268.41), did any analysis include the TCLP (268 Appendix I)? 268.33(g)	___	___	
Notices, Certifications, and Demonstrations:			
If determined that the waste is restricted and requires treatment before land disposal, have they notified the treatment or storage facility with each shipment of waste? including: 268.7(a)(1)-	___	___	
(i) EPA H.W. number?	___	___	
(ii) Appropriate treatment standards and prohibitions?	___	___	
(iii) Manifest # for the waste?	___	___	
(iv) Available waste analysis data?	___	___	
If the waste is determined to be restricted but not require further treatment, has the generator submitted with each shipment to the treatment, storage or land disposal facility, a notice and a certification that the waste meets both treatment standards and applicable prohibitions? 268.7(a)(2)	___	___	
Did the notification include: 268.7(a)(2)(i)-			
(A) EPA H.W. number?	___	___	
(B) Appropriate treatment standards and prohibitions?	___	___	
(C) Manifest # for the waste?	___	___	
(D) Available waste analysis data?	___	___	

Land Disposal Restrictions - Continued
(Part 268)

	Yes	No	Comments
Was the following certification signed: 268.7(a)(2)(ii)			NA

I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D and all applicable prohibitions set forth in 40 CFR 268.32 or RCRA section 3004(d). I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

If the generator's waste is subject to a national variance, an extension or an exemption, have they notified the receiving facility with each shipment of waste that the waste is not prohibited from land disposal? 268.7(a)(3)			NA. THE FACILITY DOES NOT GENERATE A RESTRICTED WASTE
Did the notice include: 268.7(a)(3)-			
(i) EPA H.W. number?			
(ii) Appropriate treatment standards and prohibitions?			
(iii) Manifest # for the waste?			
(iv) Available waste analysis data?			
(v) The date the waste is subject to prohibitions?			
If determined that the waste is a First Third waste without treatment standards and not a CA list waste (and thus a "soft hammer" waste), have they notified the receiving facility with each shipment? including: 268.7(a)(4)-			
(i) EPA H.W. number?			
(ii) Appropriate certifications and the restrictions under 268.33(f) for "soft hammer" wastes?			
(iii) Manifest # for the waste?			
(iv) Available waste analysis data?			
If determined that the waste is restricted based solely on knowledge, is all supporting data used in the determination maintained on-site in the generator's files? 268.7(a)(5)			
Has the generator retained on-site a copy of all notices, certifications, waste analysis data, and other Part 268 records for at least five years? 268.7(a)(6)			

NOTE: If the recipient of the generator's waste is not on the attached list (p. 11) of known land ban facilities, or if an off-site shipment without notification has occurred, indicate the accepting TSD facility on p. 11 for proper follow-up.

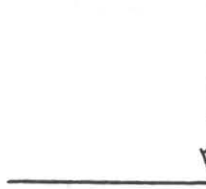
Generators of First Third "soft hammer" wastes (268.33(f)) shipped for land disposal:

	Yes	No	Comments
Prior to shipment for land disposal, has the generator certified and submitted to the R.A. a demonstration of a good faith effort to locate and contract with treatment and recovery facilities for the practically available treatment which provides the greatest environmental benefit? 268.8(a)(1-2)			NA THE FACILITY DOES NOT GENERATE SOFT HAMMER WASTES
Did the demonstration include a list of facilities and representatives contacted, complete with addresses, phone numbers, and contact dates? 268.8(a)(2)			
Was a copy of the demonstration submitted to the receiving facility with the first shipment of waste, and the certification with each shipment of waste? 268.8(a)(3) or -(4)			
Are copies of the demonstration and certification kept on site for at least five years? 268.8(a)(3) or -(4)			
If the generator determined there is no practical treatment for his waste, did the demonstration include a written discussion and the following certification? 268.8(a)(2)(i)			

I certify under penalty of law that the requirements of 40 CFR 268.8(a)(1) have been met and that disposal in a landfill or surface impoundment is the only practical alternative to treatment currently available. I believe that the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

If the generator determines that there are practical treatments for the waste, did they contract to use the technology that they demonstrated yields the greatest environmental benefits? 268.8(a)(2)(ii)			
Did they include the following certification? 268.8(a)(2)(ii)			

I certify under penalty of law that the requirements of 40 CFR 268.8(a)(1) have been met and that I have contracted to treat my waste (or will otherwise provide treatment) by the practically available technology that yields the greatest environmental benefit, as indicated in my demonstration. I believe that the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

	Yes	No	Comments
Has the generator immediately notified the R.A. of any changes in the conditions on which the certification was based? 268.8(b)(1)	___	___	NA. THE FACILITY DOES NOT GENERATE WASTES
If the R.A. invalidated a certification, has the generator immediately ceased shipments of the wastes, informed all facilities that received the waste, and retain records of the communication on-site in their files? 268.8(b)(3)	___	___	

	Yes	No	Comments
Treatment Facilities: Waste Analysis			
Has the facility tested their wastes as specified in their waste analysis plan (265.13)? 268.7(b)	___	___	N.A. THE FACILITY DOES NOT TREAT WASTES
Where treatment standards are expressed as concentrations in the waste extract (268.41), has the facility tested the treatment residues or extract (using the TCLP, 268 Appendix I) to assure they met the applicable treatment standards? 268.7(b)(1)	___	___	
For CA list-only wastes, were the applicable 268.32 Paint Filter Liquids Test, pH test, HOCs, and PCB tests performed? 268.7(b)(2)	___	___	
For wastes with treatment standards expressed as concentrations in the waste (268.43), was the treatment residue, not an extract, tested? 268.7(b)(3)	___	___	
Notifications and certifications:			
Has the treater submitted with each shipment to the land disposal facility, a notice including: 268.7(b)(4)			
(i) EPA H.W. number?	___	___	
(ii) Corresponding treatment standard?	___	___	
(iii) Manifest # for the waste?	___	___	
(iv) Available waste analysis data?	___	___	
Has the treatment facility submitted a signed certification with each shipment of waste or treatment residue to the land disposal facility stating that the treatment standards in 268 Subpart D were met? 268.7(b)(5)	___	___	
For wastes with treatment standards listed as concentrations (268.41 or -.43) did the certification read: 268.7(b)(5)(i)	___	___	

I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operations of the treatment process used to support this certification and that, based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to achieve the performance levels specified in 40 CFR Part 268 Subpart D without dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

	Yes	No	Comments
For wastes with treatment standards listed as technologies (268.42) did the certification read: 268.7(b)(5)(ii)	___	___	NA

I certify under penalty of law that waste has been treated in accordance with the requirements of 40 CFR 268.42. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

Treatment and Off-site Storage facilities:

Where waste or treatment residues are sent off-site for further management, did the sender comply with the notification and certification requirements as the generator of the waste? 268.7(b)(6-7)	___	___	THE FACILITY DOES NOT TREAT OR STORE HAZARDOUS WASTES
Where First Third "soft hammer" wastes are treated or stored, has a copy of the generator's valid certification and demonstration been retained? 268.8(c) and:	___	___	
Has the treater or storer forwarded copies of the generator's certification and demonstration (if applicable) to the facility receiving the waste or treatment residues? 268.8(c)(2) and:	___	___	
Has the treatment or recovery facility certified as follows with each shipment of waste that he has treated the waste in accordance with the generator's demonstration? 268.8(c)(1)	___	___	

I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operations of the treatment process used to support this certification and that, based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with treatment as specified in the generator's demonstration. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

	Yes	No	Comments
Treatment in surface impoundments exemption:			
If wastes otherwise prohibited from land disposal are treated in surface impoundments, has the facility met the following conditions: 268.4(a)			
(1) Treated, not just stored, the wastes in the impoundment?	___	___	N.A. THE FACILITY DOES NOT TREAT IN SURFACE IMPOUNDMENTS
(2)(i) Analyzed all treatment residues (sludge and supernatant separately) to determine if they meet treatment and/or prohibition standards?	___	___	
(2)(ii) Removed annually all treatment residues (including liquids) that do not meet treatment or prohibition standards?*	___	___	
(2)(iii) Not placed the residues in another impoundment for subsequent management?*	___	___	
Has the facility certified that all impoundments used to treat restricted wastes meet design requirements (265.221(a)) and that the facility is in compliance with GW monitoring (265 Subpart F) requirements? 268.4(a)(3-4)	___	___	
Is there a principal means of treatment other than evaporation of H.W. constituents? 268.4(b)	___	___	
Does the waste analysis plan include the procedures and schedule for: 268.4(a)(2)(iv); 265.13(b)(7)-			
(i) Sampling the impoundment contents?	___	___	
(ii) The analysis of test data?	___	___	
(iii) The annual removal of residues which exhibit a H.W. characteristic, and:			
(A) Fail 268 Subpart D treatment standards? or:	___	___	
(B) Where no treatment standards have been established, such residues are prohibited from land disposal under:			
(1) 268.32 (CA list) or RCRA 3004(d)?	___	___	
(2) 268.33(f) (1st 3rd)?	___	___	

* Unless the wastes have a valid "good faith" certification under 268.8. If the annual flow through the impoundments is greater than the combined volume of the impoundments, the supernatant is considered removed.

	Yes	No	Comments
Land Disposal Facilities:			
Does the facility have copies of all notices, certifications, and applicable demonstrations? 268.7(c)(1) (See also 265.73, Operating Record)	___	___	NA. THE FACILITY IS NOT A LAND DISPOSAL FACILITY
Has the facility tested the waste, or an extract of the waste or treatment residue (using the TCLP, 268 Appendix I) to assure that the wastes or residues are in compliance with land disposal restrictions? 268.7(c)(2)	___	___	
Was the testing performed according to the frequency specified in the waste analysis plan? 268.7(c)(2)	___	___	
Where First Third "soft hammer" (268.33(f)) or CA waste liquid (268.32) wastes are disposed, did the facility: 268.7(c)(3), 268.8(d)			
Ensure the required certification (268.8) was received prior to disposal? and:	___	___	
That the disposal unit was in compliance with the "minimum technology" requirements of 40 CFR 268.5(h)(2)?	___	___	

Identified TSFs that treat LDR Waste:

AZD049318009	Buds Oil Service
AZD980816102	Environmental Waste Entpr
AZT050010230	Esco
AZD089308803	Safety Kleen
AZD980892897	Safety Kleen
AZD009015389	Southwest Solvents
AZD049314370	Rinchem Co Inc
CAT080010101	Appropriate Technologies
CAD074644659	Baron Blakeslee
CAT000618652	Baron-Blakeslee
CAT080014079	Bay Area Environmental
CAD028409019	Crosby & Overton
CAD000633115	IT Corp, San Jose Transfer
CAD008302903	Oil & Solvent Processing
CAD042245001	Omega Chemical
CAD029363876	Orange County Chemical Co
CAT080012651	Orange County Chemical Co
CAD095894556	Pacific Treatment Company
CAD008364432	Rho-Chem
CAD980737548	Roehl Corp
CAD009452657	Romic Chemical
CAD066113465	Safety Kleen
CAD077187888	Safety Kleen
CAD093459485	Safety Kleen
CAD980894562	Safety Kleen
CAT000613935	Safety Kleen
CAT000613919	Safety Kleen
CAD066177783	Safety Kleen
CAT000613893	Safety Kleen
CAT000613976	Safety Kleen
CAT000613992	Safety Kleen
CAT000613950	Safety Kleen
CAT000613927	Safety Kleen
CAD080916968	Safety Kleen
CAD980892475	Safety Kleen
CAT000613984	Safety Kleen
CAD053044053	Safety Kleen
CAD980817159	Safety Kleen
CAT000613943	Safety Kleen
CAT000613968	Safety Kleen
CAD059494310	Solvent Services
CAT080033681	Chem Tech Inc. (formerly Triple J Pacification)
NVD980895338	Eticam

ID#	Name/Address	Accepted w/o Certification?

F001-F005 spent solvents. Treatment standards effective 11/8/86.	Treatment Standard (mg/l) Wastewaters	All Other Wastes*
Acetone	0.05	0.59
n-Butyl alcohol	5.00	5.00
Carbon disulfide	1.05	4.81
Carbon tetrachloride	0.05	0.96
Chlorobenzene	0.15	0.05
Cresols	2.82	0.75
Cresylic acid	2.82	0.75
Cyclohexanone	0.125	0.75
1,2-Dichlorobenzene	0.65	0.125
Ethyl acetate	0.05	0.75
Ethyl benzene	0.05	0.053
Ethyl ether	0.05	0.75
Isobutanol	5.00	5.00
Methanol	0.25	0.75
Methylene chloride	0.20	0.96
Methylene chloride from pharmaceutical industry	12.70 *	0.96
Methyl ethyl ketone	0.05	0.75
Methyl isobutyl ketone	0.05	0.33
Nitrobenzene	0.66	0.125
Pyridine	1.12	0.33
Tetrachloroethylene	0.079	0.05
Toluene	1.12	0.33
1,1,1-Trichloroethane	1.05	0.41
1,2,2-Trichloroethane	1.05	0.96
1,1,2-Trifluroethane	1.05	0.96
Trichloroethylene	0.062	0.091
Trichlorofluoromethane	0.05	0.96
Xylene	0.05	0.15

* The treatment standards in this treatability group are based on incineration.

F020, F021, F022, F023, F026, F027 or F028 dioxin containing wastes. These treatment standards become effective 11/8/88.	Treatment Standard
HxCDD-All Hexachlorodibenzo-p-dioxins	< 1 ppb
HxCDF-All Hexachlorodibenzofurans	< 1 ppb
PeCDD-All Pentachlorodibenzo-p-dioxins	< 1 ppb
PeCDF-All Pentachlorodibenzofurans	< 1 ppb
TCDD-All Tetrachlorodibenzo-p-dioxins	< 1 ppb
TCDF-All Tetrachlorodibenzofurans	< 1 ppb
2,4,5-Trichlorophenol	< 0.05 ppm
2,4,6-Trichlorophenol	< 0.05 ppm
2,3,4,6-Tetrachlorophenol	< 0.10 ppm
Pentachlorophenol	< 0.01 ppm

Note: Where a single constituent is addressed under more than one rulemaking, the applicable treatment standard or prohibition level is that for the more specific waste stream.

* Expired 8/17/88. 0.20 mg/l standard now applies.

RESTRICTED WASTES AND EFFECTIVE DATES:

Where wastes are in more than one catagory, the most restrictive standards apply.

Spent Solvents: (except injection wells)	Effective Date:
F001 through F005 spent solvent wastes that do not meet the Table CCWE 268.41 treatment standards (next page) and are not listed below	11/8/86
F001-F005 solvent wastes generated solely by small quantity generators of between 100-1000 kg/mo., or in total concentrations of less than 1% (see 268.30(a)(3-4)	11/8/88
F001-5 solvent wastes generated from a CERCLA response action or RCRA corrective action (non-soil or debris)	"
F001-F005 solvent wastes which are contaminated soil or debris generated from a CERCLA response action or RCRA corrective action under Subtitle C, where the disposal unit meets 268.5(h)(2) minimum technology requirements	8/8/90

Dioxin-Containing Wastes:	
F020, F021, F022, F023, F026, F027, F028 dioxin-containing wastes that do not meet the treatment standards (next page) and are not listed below	11/8/88
F020-23 and F026-28 dioxin-containing wastes which are contaminated soil or debris generated from a CERCLA response action or RCRA corrective action under Subtitle C, where the disposal unit meets 268.5(h)(2) minimum technology requirements	8/8/90

"California List" wastes: (except in an injection well)

CA Waste Code	Restricted Waste:		Effective date:
711	Liquids with cyanides	≥ 1000 mg/l	7/8/87
721	" " arsenic	≥ 500 mg/l	"
722	" " cadmium	≥ 100 mg/l	"
723	"chromium (VI)	≥ 500 mg/l	"
724	" " lead	≥ 500 mg/l	"
725	" " mercury	≥ 20 mg/l	"
726	" " nickel	≥ 134 mg/l	"
727	" " selenium	≥ 100 mg/l	"
728	" " thallium	≥ 130 mg/l	"
731	" " PCBs	≥ 50 mg/L	"

791 Liquid H.W. having a pH ≤ 2 — 7/8/87

741 Liquid H.W. that is primarily water and contain HOCs in total concentration ≥ 1,000 mg/l and less than 10,000 mg/l HOCs (listed on p.268: X) — "

751 H.W. having ≥ 1,000 ppm HOCs, that is not primarily water, and after 7/8/87 the disposal unit met 268.5(h)(2) minimum tech. requirements — 11/8/88

Contaminated soil or debris not resulting from a CERCLA response action or RCRA corrective action, and after 7/8/87 the disposal unit met 268.5(h)(2) requirements — 7/8/89

Contaminated soil or debris resulting from a CERCLA response action or RCRA corrective action, and after 11/8/88 the disposal unit meets 268.5(h)(2) requirements — 11/8/90

Note: The prohibitions and effective dates above do not apply where a specified HOC is listed in 268 Subpart C (e.g. a H.W. chlorinated solvent under F001-5, or a 1st 3rd K086 solvent wash) 268.32(h)

First Third Wastes: (except in an injection well)	Effective Date:
First Third wastes, types, and concentrations listed in the following pages, and not detailed below	8/8/88
"Soft hammer" wastes with a valid demonstration and certificate	5/8/90
K048-52 and K061 wastes containing 15% zinc or greater, and after 8/8/88 are disposed of in a 268.5(h)(2) minimum tech. unit	8/8/90
Contaminated soils and debris with treatment standards based on incineration, and after 8/8/88 are disposed of in a 268.5(h)(2) minimum tech. unit	8/8/90
Various "soft hammer" wastewater residues with <1% TOC and <1% suspended solids: metals recovery or precipitation, cyanide destruction, carbon absorption, chemical oxidation, steam stripping, biodegradation, incineration or other direct thermal destruction. (268.12(b))	5/8/90
Leachate from the storage, disposal, or treatment of "soft hammer" wastes	5/8/90
First Third-only mixed radioactive/hazardous wastes	5/8/90

APPENDIX E

FIRST THIRD WASTES FOR WHICH TREATMENT STANDARDS WERE SET

CONSTITUENT CONCENTRATIONS IN WASTE EXTRACT

Waste	Concentration
F006 nonwastewaters	
BDAT = stabilization using cement kiln dust as a binding agent	
Cadmium	0.066 mg/l
Chromium (Total)	5.2 mg/l
Lead	.51 mg/l
Nickel	.32 mg/l
Silver	.072 mg/l
Cyanides (Total)	Reserved
K001 nonwastewaters	
BDAT = rotary kiln incineration	
Lead	0.51 mg/l
K022 nonwastewaters	
BDAT = stabilization process	
Chromium (Total)	5.2 mg/l
Nickel	0.32 mg/l
K046 nonwastewaters (Nonreactive Subcategory)	
BDAT = stabilization process	
Lead	0.18 mg/l

CONSTITUENT CONCENTRATIONS IN WASTE EXTRACT (Continued)

Waste	Concentration
K048, K049, K050, K051 and K052 nonwastewaters	
BDAT = solvent extraction, and incineration	
Arsenic	0.004 mg/l
Chromium (Total)	1.7 mg/l
Nickel	.048 mg/l
Selenium	.025 mg/l
K061 nonwastewaters (Low Zinc Subcategory--less than 15% total zinc)	
BDAT = stabilization process	
Cadmium	0.14 mg/l
Chromium (total)	5.2 mg/l
Lead	.24 mg/l
Nickel	.32 mg/l
K061 nonwastewaters (High Zinc Subcategory--15% or greater total zinc): effective until 8/8/90	
BDAT = stabilization process	
Cadmium	0.14 mg/l
Chromium (Total)	5.2 mg/l
Lead	.24 mg/l
Nickel	.32 mg/l
K062 nonwastewaters	
BDAT = chrome reduction, precipitation, settling, filtration, dewatering of solids	
Chromium (Total)	0.094 mg/l
Lead	.37 mg/l

CONSTITUENT CONCENTRATIONS
IN WASTE EXTRACT (Continued)

Waste	Concentration
K071 nonwastewaters	
BDAT = solubilization of mercury, precipitation of mercury sulfide sludge, filtration, dewatering	
Mercury	0.025 mg/l
K086 nonwastewaters (Solvent Washes Subcategory)	
BDAT = chromium reduction, lime precipitation, filtration	
Chromium (Total)	0.094 mg/l
Lead	.37 mg/l
K087 nonwastewaters	
BDAT = lime precipitation and filtration	
Lead	0.51 mg/l
K101 and K102 nonwastewaters (Low Arsenic Subcategory--less than 1% Total Arsenic)	
BDAT = chemical precipitation and filtration	
Cadmium	0.066 mg/l
Chromium (Total	5.2 mg/l
Lead	.51 mg/l
Nickel	.32 mg/l

CONSTITUENT CONCENTRATIONS
IN WASTES

Waste	Concentration
F001, F002, F003, F004 and F005 vastewaters (Pharmaceutical industry)	
Methylene chloride	0.44 mg/l

CONSTITUENT CONCENTRATIONS
IN WASTES (Continued)

Waste	Concentration
F006 nonwastewaters	
Cyanides (Total)	Reserved
K001 nonwastewaters	
BDAT = rotary kiln incineration	
Naphthalene	8.0 mg/kg
Pentachlorophenol	37 mg/kg
Phenanthrene	8.0 mg/kg
Pyrene	7.3 mg/kg
Toluene	.14 mg/kg
Xylenes	.16 mg/kg
K001 vastevaters	
BDAT = rotary kiln incineration for organics, and chemical precipitation for lead	
Naphthalene	0.15 mg/l
Pentachlorophenol	.88 mg/l
Phenanthrene	.15 mg/l
Pyrene	.14 mg/l
Toluene	.14 mg/l
Xylenes	.16 mg/l
Lead	.037 mg/l
K015 vastevaters	
BDAT = liquid injection incineration for organics, and chemicl precipitation for lead	
Anthrancene	1.0 mg/l
Benzal chloride	.28 mg/l
Benzo (b and/or k) fluoranthene	.29 mg/l
Phenanthrene	.27 mg/l
Toluene	.15 mg/l
Chromium (Total)	.32 mg/l
Nickel	.44 mg/l

Waste	Concentration	
K016 nonwastewaters		
BDAT = rotary kiln incineration		
Hexachlorobenzene	28	mg/kg
Hexachlorobutadiene	5.6	mg/kg
Hexachlorocyclopentadiene	5.6	mg/kg
Hexachloroethane	28	mg/kg
Tetrachloroethane	6.0	mg/kg
K016 wastewaters		
BDAT = rotary kiln incineration		
Hexachlorobenzne	0.033	mg/l
Hexachlorobutadiene	.006	mg/l
Hexachlorocyclopentadiene	.007	mg/l
Hexachloroethane	.033	mg/l
Tetrachloroethane	.007	mg/l
K018 nonwastewaters		
BDAT = rotary kiln incineration		
Chloroethane	6.0	mg/kg
1,1-Dichloroethane	6.0	mg/kg
1,2-dichloroethane	6.0	mg/kg
Hexachlorobenzene	28	mg/kg
Hexachlorobutadiene	5.6	mg/kg
Hexachloroethane	28	mg/kg
Pentachloroethane	5.6	mg/kg
1,1,1-Trichloroethane	6.0	mg/kg
K018 wastewaters		
BDAT = rotary kiln incineration		
Chloroethane	0.007	mg/l
1,1-Dichloroethane	.007	mg/l
1,2-dichloroethane	.007	mg/l
Hexachlorobenzene	.007	mg/l
Hexachlorobutadiene	.033	mg/l
Hexachloroethane	.007	mg/l
Pentachloroethane	.007	mg/l
1,1,1-Trichloroethane	.007	mg/l

CONSTITUENT CONCENTRATIONS
IN WASTES (Continued)

Waste	Concentration	
K019 nonwastewaters		
BDAT = rotary kiln incineration		
Bis(2-chloroethyl)ether	5.6	mg/kg
Chlorobenzene	6.0	mg/kg
Chloroform	6.0	mg/kg
1,2-Dichloroethane	6.0	mg/kg
Hexachloroethane	26	mg/kg
Naphthalene	5.6	mg/kg
Phenanthrene	5.6	mg/kg
Tetrachloroethene	6.0	mg/kg
1,2,4-Trichlorobenzene	19	mg/kg
1,1,1-Trichloroethane	6.0	mg/kg
K019 nonwastewaters		
BDAT = rotary kiln incineration		
Bis(2-chloroethyl)ether	5.6	mg/kg
Chlorobenzene	6.0	mg/kg
Chloroform	6.0	mg/kg
1,2-Dichloroethane	6.0	mg/kg
Hexachloroethane	26	mg/kg
Naphthalene	5.6	mg/kg
Phenanthrene	5.6	mg/kg
Tetrachloroethene	6.0	mg/kg
1,2,4-Trichlorobenzene	19	mg/kg
1,1,1-Trichloroethane	6.0	mg/kg
K019 wastewaters		
BDAT = rotary kiln incineration		
Bis(2-chloroethyl)ether	0.007	mg/l
Chlorobenzene	.006	mg/l
Chloroform	.007	mg/l
p-Dichlorobenzene	.008	mg/l
1,2-Dichloroethane	.007	mg/l
Fluorene	.007	mg/l
Hexachloroethane	.033	mg/l
Naphthalene	.007	mg/l
Phenanthrene	.007	mg/l
1,2,4,5-Tetrachlorobenzene	.017	mg/l
Tetrachloroethene	.007	mg/l
1,2,4-Trichlorobenzene	.023	mg/l
1,1,1-Trichloroethane	.007	mg/l

CONSTITUENT CONCENTRATIONS
IN WASTES (Continued)

Waste	Concentration	
K020 nonwastewaters		
BDAT = rotary kiln incineration		
1,2-Dichloroethane	6.0	mg/kg
1,1,2,2-Tetrachloroethane	5.6	mg/kg
Tetrachloroethene	6.0	mg/kg
K020 wastewaters		
BDAT = rotary kiln incineration		
1,2-Dichloroethane	0.007	mg/l
1,1,2,2-Tetrachloroethane	.007	mg/l
Tetrachloroethene	.007	mg/l
K022 nonwastewaters		
BDAT = fuel substitution		
Acetophenone	19	mg/kg
Sum of Diphenylamine and Diphenylnitrosamine	13	mg/kg
Phenol	12	mg/kg
Toluene	0.034	mg/kg
K024 nonwastewaters		
BDAT = rotary kiln incineration		
Phthalic acid	28	mg/kg
K024 wastewaters		
BDAT = rotary kiln incineration		
Phthalic acid	0.54	mg/l

CONSTITUENT CONCENTRATIONS
IN WASTES (Continued)

Waste	Concentration	
K030 nonwastewaters		
BDAT = rotary kiln incineration		
Hexachlorobutadiene	5.6	mg/kg
Hexachloroethane	28	mg/kg
Hexachloropropene	19	mg/kg
Pentachlorobenzene	28	mg/kg
Pentachloroethane	5.6	mg/kg
1,2,4,5-Tetrachlorobenzene	14	mg/kg
1,2,4-Trichlorobenzene	19	mg/kg
K030 wastewaters		
BDAT = rotary kiln incineration		
o-Dichlorobenzene	0.008	mg/l
p-Dichlorobenzene	.008	mg/l
Hexachlorobutadiene	.007	mg/l
Hexachloroethane	.033	mg/l
Pentachloroethane	.007	mg/l
1,2,4,5-Tetrachlorobenzene	.017	mg/l
Tetrachloroethene	.007	mg/l
1,2,4-Trichlorobenzene	0.23	mg/l
K037 nonwastewaters		
BDAT = rotary kiln incineration		
Disulfoton	0.1	mg/kg
Toluene	28	mg/kg
K037 wastewaters		
BDAT = rotary kiln incineration		
Disulfoton	0.003	mg/l
Toluene	0.28	mg/l

CONSTITUENT CONCENTRATIONS
IN WASTES (Continued)

Waste	Concentration
K048 nonwastewaters	
BDAT = solvent extraction and/or incineration for organics, and stabilization for metals	
Benzene	9.5 mg/kg
Benzo(a)pyrene	.84 mg/kg
Bis(2-ethylhexyl)phthalate	37 mg/kg
Chrysene	2.2 mg/kg
Di-n-butyl phthalate	4.2 mg/kg
Ethylbenzene	67 mg/kg
Naphthalene	Reserved
Phenanthrene	7.7 mg/kg
Phenol	2.7 mg/kg
Pyrene	2.0 mg/kg
Toluene	9.5 mg/kg
Xylenes	Reserved
Cyanides (Total)	1.8 mg/kg
K048 wastewaters	
BDAT = fuilized bed incineration or organics, and chrome reduction, lime/ sulfide precipitation, and vacuum filtration for metals	
Benzene	0.011 mg/l
Benzo(a)pyrene	.047 mg/l
Bis(2-ethylhexyl)phthalate	0.43 mg/l
Chrysene	0.43 mg/l
Di-n-butyl phthalate	.060 mg/l
Ethylbenzene	0.11 mg/l
Fluorene	0.50 mg/l
Naphthalene	0.33 mg/l
Phenanthrene	0.39 mg/l
Phenol	0.47 mg/l
Pyrene	0.45 mg/l
Toluene	0.11 mg/l
Xylenes	0.11 mg/l
Chromium (Total)	.20 mg/l
Lead	0.37 mg/l

CONSTITUENT CONCENTRATIONS
IN WASTES (Continued)

Waste	Concentration
K049 nonwastewaters	
BDAT = solvent extraction and/or incineration for organics, and stabilization for metals	
Anthracene	6.2 mg/kg
Benzene	9.5 mg/kg
Benzo(a)pyrene	0.84 mg/kg
Bis(2-ethylhexyl)phthalate	37 mg/kg
Chyrsene	2.2 mg/kg
Ethylbenzene	67 mg/kg
Naphthalene	Reserved
Phenanthrene	7.7 mg/kg
Phenol	2.7 mg/kg
Pyrene	2.0 mg/kg
Roluene	9.5 mg/kg
Xylenes	Reserved
Cyandes (Total)	1.8 mg/kg
K049 wastewaters	
BDAT = fuilized bed incineration for organics, and chrome reduction, lime/ sulfide precipitation, and vacuum filtration for metals	
Anthracene	0.039 mg/l
Benzene	.011 mg/l
Benzo(a)pyrene	0.47 mg/l
Bis(2-ethylhexyl)phthalate	0.43 mg/l
Carbon disulfide	0.11 mg/l
Chrysene	0.43 mg/l
Chrysene	0.43 mg/l
2,4-Dimethylphenol	0.33 mg/l
Ethylbenzene	0.11 mg/l
Naphthalene	0.33 mg/l
Phenanthrene	.039 mg/l
Phenol	.047 mg/l
Pyrene	0.45 mg/l
Toluene	.011 mg/l
Xylenes	.011 mg/l
Chromium (Total)	.20 mg/l
Lead	.037 mg/l

CONSTITUENT CONCENTRATIONS
IN WASTES (Continued)

Waste	Concentration
K050 nonwastewaters	
BDAT = solvent extraction and/or incineration for organics, and stabilization for metals	
Benzo(a)pyrene	0.84 mg/kg
Phenol	2.7 mg/kg
Cyanides (Total)	1.8 mg/kg
K050 wastewaters	
BDAT = fuilized bed incineration for organics, and chrome reduction, lime/ sulfide precipitation, and vacuum filtration for metals	
Benzo(a)pyrene	0.047 mg/l
Phenol	.047 mg/l
Chromium (Total)	.20 mg/l
Lead	.037 mg/l
K051 nonwastewaters	
BDAT = solvent extraction and/or incineration for organics, and stabilization for metals	
Anthracene	6.2 mg/kg
Benzene	9.5 mg/kg
Benzo(a)anthracene	1.4 mg/kg
Benzo(a)pyrene	.84 mg/kg
Bis(2-ethylhexyl)phthalate	37 mg/kg
Chrysene	2.2 mg/kg
Di-n-butyl phthalate	4.2 mg/kg
Ethylbenzene	67 mg/kg
Naphthalene	Reserved
Phenanthrene	7.7 mg/kg
Phenol	2.7 mg/kg
Pyrene	2.0 mg/kg
Toluene	9.5 mg/kg
Xylenes	Reserved
Cyandes (Total)	1.8 mg/kg

CONSTITUENT CONCENTRATIONS
IN WASTES (Continued)

Waste	Concentration
K051 wastewaters	
BDAT = fuilized bed incineration for organics, and chrome reduction, lime/ sulfide precipitation, and vacuum filtration for metals	
Acenaphthene	0.050 mg/l
Anthracene	.039 mg/l
Benzene	.011 mg/l
Benzo(a)anthracene	.043 mg/l
Benzo(a)pyrene	.047 mg/l
Bis(2-ethylhexyl)phthalate	.043 mg/l
Chrysene	.043 mg/l
Di-n-butyl phthalate	.060 mg/l
Ethylbenzene	.011 mg/l
Fluorene	.050 mg/l
Naphthalene	.033 mg/l
Phenanthrene	.039 mg/l
Phenol	.047 mg/l
Pyrene	.045 mg/l
Toluene	.011 mg/l
Xylenes	.011 mg/l
Chromium (Total	.20 mg/l
Lead	.037 mg/l
K052 nonwastewaters	
BDAT = solvent extraction and/or incineration for organics, and stabilization for metals	
Benzene	9.5 mg/kg
Benzo(a)pyrene	0.84 mg/kg
o-Cresol	2.2 mg/kg
p-Cresol	0.90 mg/kg
Ethylbenzene	67 mg/kg
Naphthalene	Reserved
Phenanthrene	7.7 mg/kg
Phenol	2.7 mg/kg
Toluene	9.5 mg/kg
Xylenes	Reserved
Cyandes (Total)	1.8 mg/kg

Waste	Concentration
K052 wastewaters	
BDAT = fluidized bed incineration for organics, and chrome reduction, lime/ sulfide precipitation, and vacuum filtration for metals	
Benzene	0.011 mg/l
Benzo(a)pyrene	.047 mg/l
o-Cresol	.011 mg/l
p-Cresol	.011 mg/l
2,4-Dimethylphenol	.033 mg/l
Ethylbenzene	.011 mg/l
Naphthalene	.033 mg/l
Phenanthrene	.039 mg/l
Phenol	.047 mg/l
Toluene	.011 mg/l
Xylenes	.011 mg/l
Chromium (Total)	.20 mg/l
Lead	.037 mg/l
K062 wastewaters	
BDAT = chromium reduction, chemical precipitation and settling, dewatering of sludge	
Chromium (Total)	0.32 mg/l
Lead	.04 mg/l
Nickel	.44 mg/l
K071 wastewaters	
BDAT = sulfide precipitation, filtration, dewatering	
Mercury	0.030 mg/l

CONSTITUENT CONCENTRATIONS
IN WASTES (Continued)

Waste	Concentration
K086 nonwastewaters--Solvent Washes Subcategory	
BDAT = incineration	
Acetone	0.37 mg/kg
bis(2-ethythexyl) phthalate	.49 mg/kg
n-Butyl alcohol	.37 mg/kg
Cyclohexanone	.49 mg/kg
1,2-Dichlorobenzene	.49 mg/kg
Ethyl acetate	.37 mg/kg
Ethyl benzene	.031 mg/kg
Methanol	.37 mg/kg
Methylene chloride	.037 mg/kg
Methyl ethyl ketone	.37 mg/kg
Methyl isobutyl ketone	.37 mg/kg
Naphthalene	.49 mg/kg
Nitrobenzene	.49 mg/kg
Toluene	.031 mg/kg
1,1,1-Trichloroethane	.044 mg/kg
Trichloroethylene	.031 mg/kg
Xylenes	.015 mg/kg
K086 wastewaters--Solvent Washes Subcategory	
BDAT = incineration, for organics, chromium reduction, lime precipitation, and filtration	
Acetone	0.015 mg/l
bis(2-ethylhexyl)phthalate	.044 mg/l
n-Butyl alcohol	.031 mg/l
Cyclohexanone	.022 mg/l
1,2-Dichlorobenzene	.044 mg/l
Ethyl acetate	.031 mg/l
Ethyl benzene	.015 mg/l
Methanol	.031 mg/l
Methylene chloride	.031 mg/l
Methyl ethyl ketone	.031 mg/l
Methyl isobutyl ketone	.031 mg/l
Naphthalene	.044 mg/l
Nitrobenzene	.044 mg/l
Toluene	.029 mg/l
1,1,1-Trichloroethane	.031 mg/l
Trichloroethylene	.029 mg/l
Xylenes	.015 mg/l
Chromium (Total)	.32 mg/l
Lead	.037 mg/l

Waste	Concentration
K087 nonwastewaters	
BDAT = rotary kiln incineration	
Acenaphthalene	.34 mg/kg
Benzene	.071 mg/kg
Chrysene	3.4 mg/kg
Fluoranthene	.34 mg/kg
Indeno (1,2,3-cd) pyrene	3.4 mg/kg
Naphthalene	3.4 mg/kg
Phenanthrene	3.4 mg/kg
Toluene	.65 mg/kg
Xylenes	.070 mg/kg
K087 wastewaters	
BDAT = rotary kiln incineration	
Acenaphthalene	0.028 mg/l
Benzene	.014 mg/l
Chrysene	.028 mg/l
Fluoranthene	.028 mg/l
Indeno (1,2,3-cd) pyrene	.028 mg/l
Naphthalene	.028 mg/l
Phenanthrene	.028 mg/l
Toluene	.008 mg/l
Xylenes	.014 mg/l
Lead	.037 mg/l
K099 nonwastewaters	
BDAT = oxidation using chlorine	
2,4-Dichlorophenoxyacetic acid	1.0 mg/kg
Hexachlorodibenzo-p-dioxins	.001 mg/kg
Hexachlorodibenzofurans	.001 mg/kg
Pentachlorodibenzo-p-dioxins	.001 mg/kg
Pentachlorodibenzofurans	.001 mg/kg
Tetrachlorodibenzo-p-dioxins	.001 mg/kg
Tetrachlorodibenzofurans	.001 mg/kg

CONSTITUENT CONCENTRATIONS
IN WASTES (Continued)

Waste	Concentration
K099 wastewaters	
BDAT = oxidation using chlorine	
2,4-Dichlorophenoxyacetic acid	1.0 mg/l
Hexachlorodibenzo-p-dioxins	.001 mg/l
Hexachlorodibenzofurans	.001 mg/l
Pentachlorodibenzo-p-dioxins	.001 mg/l
Pentachlorodibenzofurans	.001 mg/l
Tetrachlorodibenzo-p-dioxins	.001 mg/l
Tetrachlorodibenzofurans	.001 mg/l
K101 nonwastewaters (Low Arsenic Subcategory--less than 1% total arsenic)	
BDAT = rotary kiln incineration	
Ortho-Nitroaniline	14 mg/kg
K101 wastewaters	
BDAT = rotary kiln incineration for organics, and chemical precipitation and filtration for metals	
Ortho-Nitroaniline	0.27 mg/l
Arsenic	2.0 mg/l
Cadmium	.24 mg/l
Lead	.11 mg/l
Mercury	.027 mg/l
K102 nonwastewaters (Low Arsenic Subcategory--less than 1% total arsenic)	
BDAT = rotary kiln incineration	
Ortho Nitrophenol	13 mg/kg

CONSTITUENT CONCENTRATIONS
IN WASTES (Continued)

Waste	Concentration
K102 wastewaters	
BDAT = rotary kiln incineration for organics, and chemical precipitation and filtration for metals	
Ortho-Nitrophenol	0.028 mg/l
Arsenic	2.0 mg/l
Cadmium	.24 mg/l
Lead	.11 mg/l
Mercury	.027 mg/l
K103 nonwastewaters	
BDAT = solvent extraction, activated carbon adsorption, with incineration of the solvent stream	
Aniline	5.6 mg/kg
Benzene	6.0 mg/kg
2,4-Dinitrophenol	5.6 mg/kg
Nitrobenzene	5.6 mg/kg
Phenol	5.6 mg/kg
K103 wastewaters	
BDAT = solvent extraction, activated carbon adsorption, with incineration of the solvent stream	
Aniline	4.5 mg/l
Benzene	.15 mg/l
2,4-Dinitrophenol	.61 mg/l
Nitrobenzene	.073 mg/l
Phenol	.14 mg/l
K104 nonwastewaters	
BDAT = solvent extraction, activated carbon adsorption, with incineration of the solvent stream	
Aniline	5.6 mg/kg
Benzene	6.0 mg/kg
2,4-Dinitrophenol	5.6 mg/kg
Nitrobenzene	5.6 mg/kg
Phenol	5.6 mg/kg
Cyanides (Total)	1.8 mg/kg

CONSTITUENT CONCENTRATIONS
IN WASTES (Continued)

Waste	Concentration
K104 wastewater	
BDAT = solvent extraction, activated carbon adsorption, with incineration of the solvent stream	
Aniline	4.5 mg/l
Benzene	.15 mg/l
2,4-Dinitrophenol	.61 mg/l
Nitrobenzene	.073 mg/l
Phenol	1.4 mg/l
Cyanides (Total)	2.7 mg/l

No Land Disposal for:

K004 Nonwastewaters (Based on No Generation)
K008 Nonwastewaters (Based on No Generation)
K015 Nonwastewaters (Based on No Ash)
K021 Nonwastewaters (Based on No Generation)
K025 Nonwastewaters (Based on No Generation)
K036 Nonwastewaters (Based on No Generation
K8044 (Based on Reactivity)
K045 (Based on Reactivity)
K047 (Based on reactivity)
K060 Nonwastewaters (Based on No Generation)
K061 Nonwastewaters--High Zinc Subcategory (greater than or equal to 15% total zinc((Based on Recycling): effective 8/8/90
K069 Nonwastewaters--Non-Calcium Sulfate Subcategory (Based on Recycling)
K083 Nonwastewaters--No Ash Subcategory (Based on No Ash)
K100 Nonwastewaters (Based on No Generation)

Concentration (in mg/kg)
14

Concentration (in mg/l)
0.27
2.0
.24
.11
.027

Concentration (in mg/kg)
13

Concentration (in mg/l)
0.028
2.0
.24
.11
.027

Concentration (in mg/kg)
5.6
6.0
5.6
5.6
5.6

Concentration (in mg/l)
4.5
.15
.61
.073
1.4

Concentration (in mg/kg)
5.6

K104 wastewaters	Concentration (in mg/l)
Nitrobenzene	.073
Phenol	1.4
Cyanides (Total)	2.7

No Land Disposal for:

K004 Nonwastewaters [Based on No Generation]
K008 Nonwastewaters [Based on No Generation]
K015 Nonwastewaters [Based on No Ash]
K021 Nonwastewaters [Based on No Generation]
K025 Nonwastewaters [Based on No Generation]
K036 Nonwastewaters [Based on No Generation]
K044 [Based on Reactivity]
K045 [Based on Reactivity]
K047 [Based on Reactivity]
K060 Nonwastewaters [Based on No Generation]
K061 Nonwastewaters—High Zinc Subcategory (greater than or equal to 15% total zinc) [Based on Recycling]: effective 8/8/90
K069 Nonwastewaters—Non-Calcium Sulfate Subcategory [Based on Recycling]
K083 Nonwastewaters—No Ash Subcategory (less than 0.01% total ash) [Based on No Ash]
K100 Nonwastewaters [Based on No Generation]

(b) When wastes with differing treatment standards for a constituent of concern are combined for purposes of treatment, the treatment residue must meet the lowest treatment standard for the constituent of concern.

17. In § 268.44, paragraph: (l) are added to read as follc

§ 268.44 Variance from a trea standard.

* * * * *

(h) Where the treatment s expressed as a concentratio or waste extract and a wast under conditions specific to site cannot be treated to the level, or where the treatmen is not appropriate to the wa: generator or treatment facili apply to the Assistant Admi the Office of Solid Waste ar Emergency Response, or his representative, for a site-spe variance from a treatment st applicant for a site-specific must demonstrate that beca physical or chemical proper waste differs significantly fr waste analyzed in developir treatment standard, the was treated to specified levels or specified methods.

(i) Each application for a s variance from a treatment st must include the information § 260.20(b)(1)–(4);

(j) After receiving an appli site-specific variance from a standard, the Assistant Adm or his delegated representati request any additional infor samples which may be requi evaluate the application.

(k) A generator, treatment disposal facility that is mana waste covered by a site-spec variance from a treatment st must comply with the waste requirements for restricted v under § 268.7.

TABLE 1.—REGULATIONS IMPLEMENTING THE HAZARDOUS

Promulgation date	Title of regulation
* * * *	
[Insert date of promulgation of final rule in the Federal Register].	Land disposal restrictions for First Tl wastes.
* * * *	

In determining the concentration of HOCs in a hazardous waste for purposes of the § 268.32 land disposal prohibition, EPA has defined the HOCs that must be included in the calculation as any compounds having a carbon-halogen bond which are listed in this Appendix (see § 268.2). Appendix III to Part 268 consists of the following compounds:

Volatiles

Bromodichloromethane
Bromomethane
Carbon Tetrachloride
Chlorobenzene
2-Chloro-1,3-butadiene
Chlorodibromomethane
Chloroethane
2-Chloroethyl vinyl ether
Chloroform
Chloromethane
3-Chloropropene
1,2-Dibromo-3-chloropropane
1,2-Dibromomethane
Dibromomethane
Trans-1,4-Dichloro-2-butene
Dichlorodifluoromethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethylene
Trans-1,2-Dichloroethene
1,2-Dichloropropane
Trans-1,3-Dichloropropene
cis-1,3-Dichloropropene
Iodomethane
Methylene chloride
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethene
Tribromomethane
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene
Trichloromonofluoromethane
1,2,3-Trichloropropane
Vinyl chloride

Semivolatiles

Bis(2-chloroethoxy)ethane
Bis(2-chloroethyl)ether
Bis(2-chloroisopropyl) ether
p-Chloroaniline
Chlorobenzilate
p-Chloro-m-cresol
2-Chloronaphthalene
2-Chlorophenol
3-Chloropropionitrile
m-Dichlorobenzene
o-Dichlorobenzene
p-Dichlorobenzene
3,3'-Dichlorobenzidine
2,4-Dichlorophenol
2,6-Dichlorophenol
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Hexachlorophene
Hexachloropropene
4,4'-Methylenebis(2-chloroaniline)
Pentachlorobenzene
Pentachloroethane
Pentachloronitrobenzene
Pentachlorophenol
Pronamide
1,2,4,5-Tetrachlorobenzene
2,3,4,6-Tetrachlorophenol
1,2,4-Trichlorobenzene
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
Tris(2,3-dibromopropyl)phosphate

Organochlorine Pesticides

Aldrin
alpha-BHC
beta-BHC
delta-BHC
gamma-BHC
Chlordane
DDD
DDE
DDT
Dieldrin
Endosulfan I
Endosulfan II
Endrin
Endrin aldehyde
Heptachlor
Heptachlor epoxide
Isodrin
Kepone
Methoxyclor
Toxaphene

Phenoxyacetic Acid Herbicides

2,4-Dichlorophenoxyacetic acid
Silvex
2,4,5-T

PCBs

Aroclor 1016
Aroclor 1221
Aroclor 1232
Aroclor 1242
Aroclor 1248
Aroclor 1254
Aroclor 1260
PCBs not otherwise specified

Dioxins and Furans

Hexachlorodibenzo-p-dioxins
Hexachlorodibenzofuran
Pentachlorodibenzo-p-dioxins
Pentachlorodibenzofuran
Tetrachlorodibenzo-p-dioxins
Tetrachlorodibenzofuran
2,3,7,8-Tetrachlorodibenzo-p-dioxin